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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

VINCENT, DAVID ROBERT

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 03/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/865,120

Applicant(s)

RAZAVILAR ET AL.

Examiner

David R Vincent

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-171 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-171 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/7/04, 8/26/02</u> . | 6) <input type="checkbox"/> Other: ____ |

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1. Claims 18 and 31 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For example:

"any Bluetooth standard" is considered vague and indefinite because applicant cannot get coverage for future Bluetooth standards that were not known when the application was filed. Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly

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or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-5, 7, 10-13, 17-18, 22, 24-26, 28, 30-35, 37-44, 46, 49-50, 56-58, 60, 62-67, 69-76, 78, 81-82, 88-90, 92, 94-99, 101-108, 110, 113-114, 121-123, 125, 127-132, 134-141, 146-147, 154-156, 158, 160-165, 167-171 are rejected under 35 U.S.C. 102(e) as being anticipated by Moon (US 6,804,532).

Moon discloses handing off (e.g., col. 6, lines 11-41; col. 13, lines 1-13) between two different access technologies such as between a WLAN (e.g., col. 5, lines 55-66; col. 6, lines 10-41; col. 7, line 5; col. 10, lines 59-67; col. 13, lines 49-57; and col. 14, lines 57-67) and a WWAN (WAN wireless through GPRS, col. 14, lines 57-67), monitoring at the mobile (e.g., col. 2, lines 1-11), a quality of service (e.g., RSSI, col. 4, lines 1-10; col. 10, lines 8-49; bit error rate, col. 10, lines 8-19; delay, availability, cost, col. 9, lines 8-27, QoS, col. 9, lines 56-67; col. 11, lines 61-67; col. 12, lines 15-34; col. 12, lines 60-67; col. 13, lines 1-57), an IP stack (e.g., col. 5, lines 6-67; col. 11, lines 15-45; col. 11, line 61-col. 12, line 14), using various thresholds (e.g., col. 13, lines 14-33; col. 14, lines 1-11), using a different physical layer (e.g.,

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going from a WLAN to a WWAN, col. 14; or col. 3, lines 5-55; heterogeneous handoffs, col. 6, lines 10-41; col. 13, lines 49-57), modifying routing tables, updating interfaces, or IP addresses, (e.g., col. 7, lines 43-56; col. 8, line 43-col. 9, line 27; routing updates, col. 11, lines 46-61), determining based on further monitoring (monitoring during soft handoff, col. 4, lines 25-38; or while between thresholds, col. 14, lines 1-11), using the bit error rate (e.g., col. 10, lines 8-19), network congestion (e.g., too many mobiles communicating at a give time, col. 3, lines 56-65; load and cost, col. 9, lines 9-27), delay (e.g., latency, col. 9, lines 8-40), cost of service (e.g., number of hops or cost, col. 8, line 42-col. 9, line 27), service availability (col. 3, lines 56-65; availability, col. 8, lines 5-42, load, col. 9, lines 9-27; capacity, bandwidth, col. 9, lines 40-65), using Bluetooth (e.g., col. 10, lines 60-67; col. 15, lines 1-10), using an IS95 standard (a CDMA standard, col. 3, lines 5-22; col. 7, lines 1-14; col. 11, lines 15-45), using GPRS or an enhanced GSM standard (e.g., GPRS, col. 5, lines 6-35; col. 14, lines 56-67), using a cellular network (e.g., col. 5, lines 35-54; col. 11, lines 15-45), using a satellite (32, Fig. 2 and respective disclosure).

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14-16, 51, 83, 115, 148, 29, 52, 61, 84, 93, 116, 126, 148, and 159 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon, as set forth above, in view of Ala-Laurila (US 6,587,680).

Although Moon discloses WLANs Moon fails to particularly specify that the WLANs comply with the 802.11 standard or are operating at 2.4GHz, as specified in claims 15-16, 51, 83, 115, 148, 29, 52, 61, 84, 93, 116, 126, 148, and 159; or that the IP networks comply with IPsec or have security concerns, as specified 14.

Ala-Laurila teaches WLANs can comply with the 802.11 (e.g., col. 3, line 67; col. 4, lines 20-33) standard and can are operate at 2.4GHz (e.g., col. 3, lines 26-35), as specified in claims 15-16, 51, 83, 115, 148, 29, 52, 61, 84, 93, 116, 126, 148, and 159; and that the IP networks can comply with IPsec or

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have security concerns (e.g., col. 4, lines 20-55; col. 5, lines 19-59; col. 7, line 55-col. 8, line 16), as specified 14.

One can argue that the WLANs in Moon inherently comply with the 802.11 standard or are operating at 2.4GHz however, the examiner has taken the position that is it obvious for the WLANs to comply with the 802.11 standard or to operate at 2.4GHz, based on Ala-Laurila. Complying with standards only makes an invention more marketable and useable. Clearly having the security in the new AP/BS would prevent on voice or data calls being eavesdropped on.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6, 45, 77, 109, 142, 8, 47, 79, 111, 144, 9, 48, 80, 112, and 145 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon, as set forth above, in view of Cervello (US 2002/0060995).

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However, Moon fails to particularly call for using the signal to noise ratio, as specified in claims 6, 45, 77, 109, 142; packet error rate, as specified in claims 8, 47, 79, 111, 144; frame error rate, as specified in claims 9, 48, 80, 112, 145.

Cervello teaches signal to noise ratio, as specified in claims 6, 45, 77, 109, 142; packet error rate, as specified in claims 8, 47, 79, 111, 144; frame error rate, as specified in claims 9, 48, 80, 112, 145 (e.g. section 36-38) in a 802.11 WLAN environment.

It would have been obvious to use these forms of quality indicators in combination the already disclosed ones in Moon because they are well know metrics used in determining the status of a channel, and Moon already discloses using a plurality of metrics (Moon: col. 12, lines 15-22), including BER. Using these would merely enhance the amount of detail obtained about a channel so a more accurate picture could be painted about the health of a channel.

Claim Rejections - 35 USC § 103

Claims 19, 53, 68-69, 85, 100, 118, 133, 151, 20, 54, 86, 119, 152, 21, 23, 55, 87, 117, 120, 150, 153, 166 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon, as set forth above, in view of Palmer and Official Notice.

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Although Moon specifically discloses using any suitable packet-based protocol (Moon: col. 3, lines 5-30), Moon fails to particularly call for using TCP, UDP, PPP and WAP.

For example, Palmer teaches using TCP in a WLAN environment (col. 4, lines 20-46; col. 2, lines 18-55).

The examiner takes official notice that these are all extremely well known packet protocols and that using them in a WLAN environment would have been obvious. It amounts to having a different application and selecting a different tool, or in this case, protocol for the application. A WAP is used for a portable device such as a hand held device.

UDP is a simple, datagram-oriented, transport layer protocol. That means that UDP running over IP is completely connectionless. Unlike a stream-oriented protocol such as TCP, in UDP each output operation by a process produces exactly one UDP datagram. This causes one IP datagram to be sent. The UDP primary mechanism is to send and receive datagrams between application programs. UDP provides protocol ports only (unlike TCP) to distinguish among multiple programs on the same machine. Two main services that UDP provides beyond IP are port numbers and optional checksums. UDP provides no reliability, ACKs, sequencing, or flow control. However, when using UDP it is easy

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to generate IP fragments whereas TCP tries to avoid fragmentation (breaking datagrams/segments into smaller pieces).

The UDP header (shown as the 4th and 5th rows from the top, in the above figure) includes 16-bit source and destination port numbers. Although the checksum in UDP is optional, in TCP, the checksum is mandatory. The checksum in UDP covers both the header and the user data, whereas in IP, the checksum only covers the header and not the data. Additional information in the UDP checksum includes a pseudo-header (see the top three rows in the above figure). This pseudo-header is not transmitted independently. The purpose of the pseudo-header is to provide independent confirmation that the datagram reached the correct destination in addition to reaching the correct port and protocol. The pseudo-header consists of 12 octets and it includes the source and destination IP addresses, one octet of zero padding, an 8-bit protocol field, which is for upper layer protocols, and a length field.

One would use PPP because PPP uses a similar frame format as does the HDLC (high-level data link control) protocol. The IP network control protocol (NCP) allows each end to specify if it can perform header compression, similar to CSLIP. A PPP frame comprises of address, control, protocol, user data, and CRC fields. It also has a flag on both ends of the frame. The

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PPP supports multiple protocols on a single serial line (unlike SLIP) and allows for dynamic negotiation of IP address for each end.

TCP would be used because it is a layer four connection-oriented and stream-oriented reliable communication protocol/delivery service, which uses Virtual Circuit Connections (VCCs), and a *sliding window protocol*. As mentioned earlier, the correct term to use when referring to data at the TCP layer is *segment*. When TCP segments are passed down to the IP layer and IP headers are appended, the segment then becomes a packet/datagram. Since TCP and IP are often referred to as the TCP/IP protocol suite, it is common to use the term packet even when referring to TCP data.

TCP Features

Full duplex VCCs, Port mechanism, End-to-end flow control, Sequence numbering of segments, Checksum over header and data Round Trip Time (RTT) estimator, End-to-end congestion control.

Regarding the reason one would use a system directory file when routing, the process on the router that is running the routing protocol, communicating with its neighbor routers, is usually called a *routing daemon*. The term daemon means the

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process is running in the background, carrying out operations on behalf of the whole system. Unix systems often run the routing daemon named *Routed*. It is provided with almost every implementation of TCP/IP and it communicates using only RIP. There is also another daemon called *Gated*, which supports both *interior gateway protocols* (IGPs) and *exterior gateway protocols* (EGPs). Dynamic routing implies that the routing tables are constantly being updated. A corporation or campus often defines an *autonomous system* (AS) by all the routers in the individual network being under a single administrative control.

Claim Rejections - 35 USC § 103

7. Claims 27, 59, 91, 124, 157 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon as set forth above, in view of Vaduvur (US 6,446,088).

Although Moon discloses using WLANs, Moon fails to particularly call for using the Metricom protocol.

Vaduvur teaches using the Metricom protocol (summary).

One would combine this protocol with a system that handles a plurality of protocols such as Moon because the Metricom protocol can be used in homes that already use it and do not want to change their interface cards or other hardware.

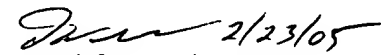
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David R

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Vincent whose telephone number is 571 272 3080. The examiner can normally be reached on M-TH.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571 272 3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 2/23/05
David R Vincent
Primary Examiner
Art Unit 2661

February 23, 2005